



circuit breaker 3VA5 UL frame 125 3-pole, starter protection TM120M, AM, In=90A without overload protection short-circuit protection  $I_i=3...7 \times I_n$  cable connection on both sides

Model	
product brand name	SENTRON
product designation	Molded-case circuit breaker
product designation / according to UL file	HEAP
Product version	Starter protection
design of the load switch / according to UL 489 / Heating, Air Conditioning, and Refrigeration circuit breaker (HACR Type)	Yes
design of the load switch / according to UL 489 / High-Intensity-Discharge circuit breaker (HID Type)	No
design of the load switch / according to UL 489 / Switching Duty circuit breaker (SWD Type)	No
design of the overcurrent release	TM120M
protection function of the overcurrent release	I
number of poles	3
General technical data	
insulation voltage / rated value	800 V
operating voltage / at AC / rated value	690 V
power loss [W] / maximum	18 W
Active power loss / for rated value of the current / at AC / in hot operating state / per pole	6 W
mechanical service life (switching cycles) / typical	20 000
Electrical endurance (switching cycles) / at AC-1 / at 380/415 V 50/60 Hz	8 000
Electrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz	4 000
electrical endurance (switching cycles) / at 480 V	8 000
electrical endurance (switching cycles) / at 600 V	4 000
Neutral conductors / upgradeable/retrofitable	No
ground-fault monitoring version	without
product function	
• communication function	No
• phase failure detection	No
• other measurement function	No
Net Weight	1.034 kg
Current	
marking / according to UL 489 / 100%-rated breaker	No
operational current	
• at 40 °C	90 A
• at 45 °C	88 A
• at 50 °C	86 A
• at 55 °C	84 A
• at 60 °C	82 A

<ul style="list-style-type: none"> <li>• at 65 °C</li> <li>• at 70 °C</li> </ul>	80 A 79 A	
<b>Switching capacity according to IEC 60947</b>		
breaking capacity maximum short-circuit current (Icu) <ul style="list-style-type: none"> <li>• at 240 V</li> <li>• at 415 V</li> <li>• at 690 V</li> </ul>	150 kA 70 kA 10 kA	
breaking capacity operating short-circuit current (Ics) <ul style="list-style-type: none"> <li>• at 240 V</li> <li>• at 415 V</li> <li>• at 690 V</li> </ul>	150 kA 70 kA 5 kA	
short-circuit current making capacity (Icm) <ul style="list-style-type: none"> <li>• at 240 V</li> <li>• at 415 V</li> <li>• at 690 V</li> </ul>	330 kA 154 kA 17 kA	
design of short-circuit protection	For switching power values in DC networks, see the 3VA molded case circuit breaker device manual; link to be found under Service & Support in the last chapter	
<b>Adjustable parameters</b>		
adjustable response value setting current (Ii) / for I-tripping / minimum	270 A	
adjustable response value setting current (Ii) / for I-tripping / maximum	630 A	
adjustable absolute value setting current (InN) / for N-tripping / minimum	0 A	
adjustable absolute value setting current (InN) / for N-tripping / maximum	0 A	
Ground fault protection / tripping switchable / I2t=ON/OFF	No	
<b>Mechanical Design</b>		
product component <ul style="list-style-type: none"> <li>• undervoltage release</li> <li>• voltage trigger</li> <li>• trip indicator</li> </ul>	No No No	
height [in]	5.51 in	
Height	140 mm	
width [in]	3 in	
Type of connectable conductor cross-section, round conductor terminal, stranded	1 x (8 AWG - 3/0)	
Width	76.2 mm	
depth [in]	3.01 in	
depth	76.5 mm	
<b>Connections</b>		
arrangement of electrical connectors / for main current circuit	Front connection	
type of electrical connection / for main current circuit	circular conductor terminal on both sides	
<b>Auxiliary circuit</b>		
number of CO contacts / for auxiliary contacts	0	
<b>Accessories</b>		
product extension / optional / motor drive	Yes	
<b>Environmental conditions</b>		
protection class IP / on the front	IP40	
ambient temperature <ul style="list-style-type: none"> <li>• during operation / minimum</li> <li>• during operation / maximum</li> <li>• during storage / minimum</li> <li>• during storage / maximum</li> </ul>	-25 °C 70 °C -40 °C 80 °C	
<b>Certificates</b>		
reference code / according to IEC 81346-2	Q	
certificate of suitability / as approval for NAVAL (no combat vessels) / supplement SB	Yes	
<b>General Product Approval</b>	<b>EMC</b>	<b>Declaration of Conformity</b>





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